

SAFE FOOD COALITION

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Background information for letter to Secretary Vilsack

On Mechanically Tenderized (MT) beef products.

In recent years, several outbreaks and illnesses have been associated with mechanically tenderized (MT) beef products,¹ making them a public health concern. The Safe Food Coalition is very concerned about USDA's:

- Lack of testing of MT beef source materials, including bench trim, and final products;
- Lack of labeling requirements for MT beef products;
- Inappropriate MT beef cooking guidelines listed in the bulk of the agency's publications.

According to the 2008 FSIS *Checklist Report*, over 50 million pounds of mechanically tenderized beef products are produced each month.² Most of these products have been mechanically tenderized through a process that repeatedly inserts small needles or blades into the product, generally with product being exposed to 2-3 passes.³ A 2008 *Journal of Food Protection* article by Luchansky et al.⁴ reports that a 2003 National Cattlemen's Beef Association survey found that 188 of 200 processors (94%) use mechanical tenderization to improve product quality. Taken together, this information indicates that a preponderance of beef plants are processing, distributing and selling MT beef products.

FSIS classifies a product to be non-intact if the product has been injected or if its surface has been pierced, even though the product may look intact. Therefore, MT beef and pork products are nonintact products.⁵ USDA currently recommends that consumers cook intact beef products to 145°F while it recommends that consumers cook all pork and ground and non-intact beef products to 160°F.⁶ The higher cooking temperature for ground and non-intact beef products is warranted, given the low infectious dose and high toxicity of *E. coli* O157:H7 and given that ground and

¹ U.S. Department of Agriculture. 2005. HACCP plan reassessment for mechanically tenderized beef products. *Fed. Register* 70:30331-30334.

² U.S. Department of Agriculture. 2008. Results of Checklist and Reassessment of Control for *Escherichia coli* O157:H7 in Beef Operations, p. 35. www.fsis.usda.gov/PDF/Ecoli_Reassement_&_Checklist.pdf.

³ *Ibid.*, p. 93.

⁴ Luchansky JB, Phebus RK, Thippareddi H, Call JE. Translocation of surface-inoculated *Escherichia coli* O157:H7 into beef subprimals following blade tenderization. *J Food Prot.* 2008 Nov; 71(11):2190-7.

⁵ U.S. Department of Agriculture. 2008. Results of Checklist and Reassessment of Control for *Escherichia coli* O157:H7 in Beef Operations, p. 110. www.fsis.usda.gov/PDF/Ecoli_Reassement_&_Checklist.pdf.

⁶ USDA/FSIS Fact Sheet: *Foodborne Illness Peaks in Summer – Why?*

http://www.fsis.usda.gov/Fact_Sheets/Foodborne_Illness_Peaks_in_Summer/index.asp

nonintact beef products may have pathogens distributed throughout the product, not just on the surface.

Several studies have been undertaken to determine if the mechanical tenderization process transfers pathogens from the surface to the interior of beef products. A study by Luchansky et al.⁷ found that, depending on the level of surface contamination, mechanical tenderization of beef products transferred *E. coli* O157:H7 into the topmost 1 cm of product in 90% to 100% of samples and into the topmost 2 cm of product in 55% to 98% of samples. The authors conclude:

Assuming that the prevalence and levels of E.coli O157:H7 on the surface of nonintact subprimals remain low and that best practices are followed for operating and monitoring tenderization equipment, then our data and the reports cited herein support the conclusion of others that nonintact, blade-tenderized beef steaks do not present a greater risk to consumers than otherwise similar meat that is intact, provided that the meat is properly cooked (underlining added).

In other words, according to this article, consumers and restaurant cooks are expected to use cooking as a kill step when preparing MT beef. However, without labeling by the beef manufacturer, these food providers would not know that they should cook the product to a “proper” temperature. Luchansky et al. do not attempt to establish what the correct cooking temperature should be for MT beef products, but the authors do report that studies to validate cooking guidelines to effectively kill *E. coli* O157:H7 in MT beef products are on-going.

With the onset of the grilling season, this non-labeling of MT beef is a serious public health threat. Again, nonintact MT beef products look like intact products. Without labeling, consumers cannot differentiate MT beef products from intact products and would not know that MT beef products need to be cooked to a higher temperature to ensure killing internal pathogens. Contrary to FSIS’s stated public health goals, there is no policy/regulation that requires labeling of MT beef products, even though it is known that these products are capable of causing disease.

In the FSIS 2008 *Checklist Report*, Table 5.4.95 shows that 74% of establishments performing mechanical tenderization operations do not label the product.⁸ While this statistic is disturbing, in recent conversations with FSIS, the Safe Food Coalition has learned that the agency has no knowledge of any processing plant that labels its product as being mechanically tenderized.

In addition, in the summary for the mechanical tenderization section, the *Checklist Report* highlights the following:

- Fifty-three percent (452) of establishments did not have purchase specifications for suppliers requiring intervention methods (see Table 5.4.82).

⁷ Luchansky JB, Phebus RK, Thippareddi H, Call JE. Translocation of surface-inoculated *Escherichia coli* O157:H7 into beef subprimals following blade tenderization. *J Food Prot.* 2008 Nov; 71(11):2190-7.

⁸ U.S. Department of Agriculture. 2008. Results of Checklist and Reassessment of Control for *Escherichia coli* O157:H7 in Beef Operations, p. 93. www.fsis.usda.gov/PDF/Ecoli_Reassessment_&_Checklist.pdf

- Less than 15 percent of establishments conducted validated interventions on mechanically tenderized product (see Table 5.4.83).
- More than 80 percent of establishments did not conduct ongoing verification testing of source materials, and only 3 percent used FSIS “best practices” as outlined in Attachment 5 of Notice 65-07 (see Table 5.4.84).
- More than 80 percent of establishments did not conduct ongoing verification testing of their finished product, and only 1 percent used FSIS “best practices” (see Table 5.4.85).
- Two percent of establishments cleaned and sanitized after mechanically tenderizing components from each supplier (see Table 5.4.91).
- Thirty-two percent of establishments were creating bench trim that could be used as a raw beef component and was not specifically accounted for in a robust testing program.⁹

The Safe Food Coalition is very concerned that over 80% of the plants that produce MT beef do not test either the source or the final product and that the bench trim (created from MT beef) for ground beef products are not routinely included in a robust testing program. This is especially disturbing since the pathogen of concern – *E. coli* O157:H7 – has a zero tolerance if it is detected!

The Safe Food Coalition strongly believes that the lack of labeling of MT beef products, along with FSIS’ low recommended cooking guidelines and temperatures for intact beef products, poses a serious and unnecessary threat to public health. Given this potential health hazard to consumers, the Agency must act quickly and publicly to recommend that all beef products be carefully handled and thoroughly cooked.

The Agency has an obligation to immediately inform consumers and retail outlets (including restaurants) that its recommended temperature (145°F instant read for consumers and 145° instant read with a 3minute stand time for restaurants) for intact beef products is not safe for all beef products that have the appearance of being intact. Further, given that the Agency has recommended to consumers that 145° F (instant read) is a safe internal temperature for intact beef for many years (throughout many of its publications), the Agency needs to proactively re-educate all consumers and retail purchasers about the importance of cooking MT beef to a higher internal temperature.

The Safe Food Coalition appreciates the seriousness of what we are asking the Agency to do. However, we are confident that FSIS will fulfill its mandate to protect public health.

The Safe Food Coalition expects FSIS to:

- Issue a press release as soon as possible indicating that the current cooking guidelines and temperatures for intact beef products are not safe for all beef products that look intact.

⁹ *ibid.*, pp.93-4.

- Take immediate steps to develop regulation that will require labeling to clearly identify mechanically tenderized, nonintact beef and pork products for all processing facilities, retail purchasers and consumers.
- Initiate a FSIS program to assess the effectiveness of public health messaging, so that effective food safety messages can be delivered to all food safety stakeholders.

In addition to these three immediate steps, SFC also expects FSIS to:

- Develop data on the contamination rates of different processes, technologies and practices involved in MT products, including blade and needle tenderization, sterilization of blades and needles between each piercing, use of marinades with antimicrobial properties, etc.
- In conjunction with the development of the above data, FSIS should investigate processes in which it can be demonstrated that contamination of the product does not occur or is substantially reduced. When studies document such findings, FSIS should consider different labeling and cooking instructions.
- Develop an educational outreach campaign, based on the above research, to inform retail purchasers about the risk of MT meat products, with particular effort aimed at informing purchasers who prepare food for those populations most likely to develop serious foodborne disease.
- Initiate a FSIS program, in conjunction with the FDA, that would require restaurants to specify on their menus that MT beef and pork products require higher cooking temperatures and/or longer stand times to ensure the safety of the product.
- Develop a similar educational outreach program for public health officials to improve the accuracy and timeliness of their foodborne illness reporting.
- Develop, in conjunction with the CDC and state public health departments, a user-friendly reporting system that medical providers can employ when cases of foodborne illness are identified.

We appreciate USDA's prompt response to this very serious public health issue.